Client: MINISTRY OF EXTERNAL AFFAIRS NEW DELHI

**DETAILED PROJECT REPORT**

Preparation of Detailed Project Report for Two Lane Road from Paletwa to Setpyitpyin (Kalewa) in Chin State of Myanmar.

**PILE LAYOUT PLAN FOR ABUTMENT A1 AND A2**

- **All dimensions are in mm. Written dimensions are to be followed.**
- **The design is in accordance with IRC & IS codes.**
- **Grade of Concrete:**
  - Pile - M40
  - Pier Cap - Abutment - M35
  - Pile Cap - M35
  - Slab - M35
  - Approach Slab - M35
- **Grade of Steel:**
  - Pile Hoop - Fe 415
  - Pier Cap Steel - Fe 500
  - Slab Steel - Fe 500
  - Deck Slab Steel - Fe 500
  - Pedestals - Fe 415
  - Pedestal Thickness - Fe 415
- **Clear Cover:**
  - Grade of Steel - Fe 500 as per IS:1786 or TMT-CRS of minimum yield strength 500 N/mm².
- **Live Load:**
  - 3 lane load combinations, whichever governs.
- **Equivalent Weight:**
  - Cement Concrete Blocks will be preferred wherever practicable.
- **Backfill:**
  - Behind Abutment & Return Wall shall be provided as per Fig. 4 of Appendix - 6 of IRC:78.
- **Properties of Backfill soil:**
  - Filter shall consist of sound gravel, stone, jhama (overburnt) brick ballast, and coarse sand.
- **Erected Load Test (ELT):**
  - Pile load test should be done as per IS:2911 Part IV - 1985.
- **Piling for Slope Protection:**
  - May be provided as per provisions of IRC 89.
- **Pedestals:**
  - May be provided as per site requirement in the pier /abutment cap at jack location and pedestals below the bearings.
- **For Superstructure, Wearing Coat, Expansion Joint, & Drainage Spout refer Standard Most DRG.**
- **Backfill behind abutment & return wall shall be provided as per Fig. 4 of Appendix - 6 of IRC:78.**
- **Provisions of Brace Fil. Soil:**
  - Young's Modulus "E" = 3.7 x 10^5.
- **Angle of Internal Friction ~ 15°**
- **Design Load:**
  - Live Load - 3 Lane Load Combinations, whichever governs.
- **Other loads & Forces have been considered as per IRC Codes.**
- **Seismic Arrester, Pedestal, Deck Slab, Approach Slab**
- **References**

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**Pile Layout, Pile, Pier Cap, and Abutment Shaft Reinforcement Details at Abutment A1 and A2**

- **Reinforcement Details at Abutment A1 and A2:**
  - Two layers of mesh reinforcement at 20 mm and others at 100 mm from the concrete surfaces shall be provided.
  - 25mm Lap at any section.
  - Minimum Lap Length shall be 63x4 when 'd' is the diameter of smaller bar.
  - Not more than 50% of the bars shall be lapped at any section.
  - The distance of isolated stones of equivalent weight.
  - Cement concrete blocks will be preferred wherever practicable.
  - Filter shall consist of sound gravel, stone, jhama (overburnt) brick ballast, and coarse sand.

**Consultant:** IRCON INFRASTRUCTURE & SERVICES LIMITED
Preparation of Detailed Project Report for Two Lane Road from Paletwa to Setpyitpyin (Kaletwa) in Chin State of Myanmar.

MINISTRY OF EXTERNAL AFFAIRS
NEW DELHI

DATE: 18.03.2013

SCALE: 1:50

D 150

DESIGN: Satyanarayana Devella Gupta

CONSULTANT: IRCON INFRASTRUCTURE & SERVICES LIMITED

REFERENCES:

1. ALL DIMENSIONS ARE IN MM AND LEVELS IN METRES.
2. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. THE DESIGN IS IN ACCORDANCE WITH IRC & INCODES.
4. STRUCTURAL STEEL IS OF GRADE E250 (Fe 410W; B) NORMALISED AND FULLY KILLED, AS PER IS-2062-2006.
6. ALL BOLTS ARE 22 mm DIAMETER AND BOLT HOLE DIAMETER SHALL BE 1.5mm LARGER THAN NOMINAL BOLT DIAMETER UP TO 25mm.
7. GRADE OF CONCRETE FOR DECK SLAB AND CRASH BARRIER: M40 AND GRADE OF STEEL: 35.
8. WEARING COAT SHOULD BE 65 MM THICK COMPRISING 12 MM MASTIC AND 53 MM RUBBER.
9. INTERMEDIATE GIRDER SHOULD BE ADEQUATELY SUPPORTED.
10. CUTTING LENGTH OF ALL DIAGONAL MEMBER AND SIZE OF GUSSET PLATES TO BE FINISHED BY FULL SCALE SHOP LAYOUT.
11. ALL DIMENSIONS TO BE CONFIRMED AT SITE BEFORE CUTTING OF MEMBERS.
12. INTERFERE WITH THE DEPOSITION OF THE WELD MATERIAL.
13. PREVENTING OF PARENT MATERIAL AS WELL AS WELDING MATERIAL (ELECTRODE) SHALL BE CARRIED OUT.
14. IT SHALL BE ENSURED, BY SUITABLE NON DESTRUCTIVE TESTS (NDT) eg: RADIOTGRAPHIC TESTS, DYE PENETRATION TESTS, THAT THE FUSION FACES AND ADJACENT SURFACES SHALL BE FREE FROM CRACKS, NOTCHES OR OTHER IRREGULARITIES WHICH MIGHT BE THE CAUSE OF DEFECTS OR WOULD INTERFERE WITH THE DEPOSITION OF THE WELD MATERIAL.
15. QUALIFIED WELDERS.
16. ALL WELDS TO BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS.
17. WHEN ERECTED INDIVIDUALLY THE GIRDER SHOULD BE ADEQUATELY SUPPORTED.
19. REFERENCES:
20. SCALE: 1:50

NOTES:

REFERENCES:

STANDARDS:

1. ENGINEER-IN-CHARGE BEFORE CONSTRUCTION.
2. WHEN ERECTED INDIVIDUALLY THE GIRDER SHOULD BE ADEQUATELY SUPPORTED.
4. AUTOMATIC SUBMERGED ARC WELDING SHOULD BE EMPLOYED. THE SPECIFICATIONS OF WELDING MATERIAL (ELECTRODE) SHALL BE COMPATIBLE WITH PARENT MATERIAL.
5. ALL DIMENSIONS TO BE CONFIRMED AT SITE BEFORE CUTTING OF MEMBERS.
6. PREPARATION OF PARENT MATERIAL AS WELL AS WELDING MATERIAL (ELECTRODE) SHALL BE CARRIED OUT.
7. IT SHALL BE ENSURED, BY SUITABLE NON DESTRUCTIVE TESTS (NDT) eg: RADIOTGRAPHIC TESTS, DYE PENETRATION TESTS, THAT THE FUSION FACES AND ADJACENT SURFACES SHALL BE FREE FROM CRACKS, NOTCHES OR OTHER IRREGULARITIES WHICH MIGHT BE THE CAUSE OF DEFECTS OR WOULD INTERFERE WITH THE DEPOSITION OF THE WELD MATERIAL.
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12. WEARING COAT SHOULD BE 65 MM THICK COMPRISING 12 MM MASTIC AND 53 MM RUBBER.

 Legend:

EG - EXTERNAL GIRDER
IG - INTERMEDIATE GIRDER
R.C.C - REINFORCED CONCRETE